

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : C07K 14/195, C07H 21/04, A61K 39/02, A61P 1/00		A1	(11) International Publication Number: WO 00/69906
			(43) International Publication Date: 23 November 2000 (23.11.00)
(21) International Application Number: PCT/AU00/00439		(74) Agents: OLIVE, Mark, R. et al.; Davies Collison Cave, 1 Little Collins Street, Melbourne, VIC 3000 (AU).	
(22) International Filing Date: 11 May 2000 (11.05.00)			
(30) Priority Data: 60/134,022 13 May 1999 (13.05.99) US		(81) Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(71) Applicants (for all designated States except US): PFIZER PRODUCTS INC [US/US]; Eastern Point Road, Groton, CT 06340 (US). AGRICULTURE VICTORIA SERVICES PTY LTD [AU/AU]; 475 Mickleham Road, Attwood, Victoria 3049 (AU). PIG RESEARCH AND DEVELOPMENT CORPORATION [AU/AU]; 3rd Floor, Industry House, 10 National Circuit, Barton, Australian Capital Territory 2600 (AU).		Published With international search report.	
(72) Inventors; and (75) Inventors/Applicants (for US only): PANACCIO, Michael [AU/AU]; 112 Hill Road, North Balwyn, Victoria 3104 (AU). ROSEY, Everett, Lee [US/US]; 457 Route 164, Preston, CT 06365 (US). HASSE, Detlef [AU/AU]; 4 Scullin Court, Sunbury, Victoria 3429 (AU). ANKENBAUER, Robert, Gérard [US/US]; 104 Castle Hill Road, Pawcatuck, CT 06379 (US).			

INVENTOR: LAWSONIA DERIVED GENE AND RELATED HEMOLYSIN POLYPEPTIDES, PEPTIDES AND PROTEINS AND THEIR USES

Abstract

The present invention relates generally to therapeutic compositions for the treatment and/or prophylaxis of intestinal disease conditions in animals and birds caused or exacerbated by *Lawsonia intracellularis* or similar or otherwise related microorganism. In particular, the present invention provides a novel gene derived from *Lawsonia intracellularis* which encodes an immunogenic hemolysin peptide, polypeptide or protein that is particularly useful as an antigen in vaccine preparation for conferring humoral immunity against *Lawsonia intracellularis* and related pathogens in animal hosts. The present invention is also directed to methods for the treatment and/or prophylaxis of such intestinal disease conditions and to diagnostic agents and procedures for detecting *Lawsonia intracellularis* or similar or otherwise related microorganisms.